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ABSTRACT

A study explored the means by which children apply knowledge of the television medium and of the real world in distinguishing among the levels of reality and fantasy presented on television. Fifty-four second-, fourth-, and sixth-grade children were presented with a series of paired (reality/fantasy) television shows. They were asked to choose which show in each pair was the more real and to supply the reasons for their choices. The results indicated that the children reached similar decisions about which shows were "more real." However, the reasons underlying those decisions showed distinct developmental differences. In comparing program content to real life, children began with rigid assessments of the actuality and possibility of the content, often focusing on specific physical elements: eventually, they began to apply more general and comprehensive evaluations of the plausibility of characters and plots. In addition, when applying their knowledge of television by citing television-specific criteria, children initially relied on the observable features of the medium and eventually moved toward an increased recognition of features that indicate the representational and fictionalized status of television. Other findings were that older children had an increased number of strategies that enabled them to assess a wider diversity of program types and that they had developed the ability to appreciate the realistic aspects of television as well as its fantasy elements. (Author/FL)

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Technical Report #18

REASONING ABOUT THE REALITIES ON TELEVISION: A DEVELOPMENTAL STUDY

by

Patricia Morison, Hope Kelly, Howard Gardner

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Reasoning about the Realities on Television:
A Developmental Study

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Harvard Project Zero

Introduction

In judging the reality status of television fare, the adult viewer has the ability to call forth a complex set of criteria which can isolate different dimensions of a program in order to evaluate the degree of reality reflected. A given program may be considered psychologically or historically real, yet judged unreal with respect to its manner of production (e.g., animation). Alternatively, a situation comedy, bearing superficial resemblance to the real world, may be judged "real" or "authentic" in the sense in which a cartoon is not real; it presents real people. But it may simultaneously be judged unreal due to its psychological implausiblity and exaggeration.

Despite the complexities involved in defining the concept "real," most adults in our culture do arrive at a similar set of rules for making such judgments and use this mode of description consistently in evaluating television content. Furthermore, adults can modify their decisions in accordance with various possible interpretations of the concept of reality.

Given the multiple levels of fantasy and reality presented by television and the complexity entailed in assessing them, it is important to examine how children of various ages can make such assessments. Previous studies (3, 8, 13) have attempted to identify the impact of such subject characteristics as age, sex, social class, intelligence, and personal experience on the degree

of reality ascribed to television. Additionally, developmental researchers have considered the level of perceived reality as a potential variable mediating the effects of television's messages for children. In general, these investigators have been motivated by the hypothesis that perceiving television as real increases its effect, while judging it as fantasy lessens its impact. For instance, asking children to judge perceived reality by choosing a point on a scale (from "agree" to "disagree" for statements like "Television people are just like people in real life"), researchers have documented the effects of judged reality on: children's level of involvement with television content (1, 5, 14), aggressive and pro-social behaviors (2, 10, 11, 12), and social attitudes (7).

One limitation of such studies is their proclivity to treat television in a global and relatively undifferentiated manner. Children have been asked to make judgments about the reality of television in toto with insufficient regard for the diversity of degrees of reality represented by various types of content. Recent research has demonstrated that variations in both the type of content and the various dimensions of reality under consideration can affect the judgments children make. Hawkins (4), for example, using a bi-dimensional definition of reality, found different developmental trends for children's judgments of "Magic Window" reality (the degree to which children believe they are viewing drama or ongoing life) and the reality of "Social Expectation" (the degree to which children feel television characters do or do not conform to their expectations about the world).

A second limitation of previous research has been its focus on the judgments children make with little / attention to the reasons underlying them. Even where consistent and important findings have emerged concerning children's reality judgments, as well as the effects of these judgments on behavioral and attitudinal outcome measures, little is known about how children actually arrive at such beliefs. Without some understanding of the process by which children reach decisions about perceived reality, their judgments *per se* may have limited explanatory power. For example, consideration of the child's reasons is critical because the same reality judgment may be rendered about a given program for radically different reasons. A preschooler and an adolescent both may judge a situation comedy to be more real than Sesame Street; however the former may be referring to its use of live people as opposed to puppets or animation, while the older child may be referring to the psychological reality of the characters. It seems unlikely that these two children will be affected by the program similarly. Thus, reality judgments taken alone may provide an incomplete picture from that supplied by the child's reasons. In light of these considerations, the present study has focussed on the ways in which distinctions between reality and fantasy may develop and on the justifications children provide for their judgments about a diverse range of television programming.

Results of an earlier study (9) and consideration of the wealth of criteria available to the sophisticated viewer has led us to posit a model of emerging ability to assess reality and fantasy. As a start, two general hypotheses were posed. The

first hypothesis, based on general developmental principles, is that with age, children can be expected to utilize an increasing number and variety of criteria. Additionally, they will progress in their ability to use such criteria in an appropriate and flexible manner. The second hypothesis concerns developmental changes in the types of cues which signal reality or non-reality for the child. Younger children are expected to be more successful at assessing blatant violations of reality, particularly those which are signalled by specific and readily observable cues. In contrast, older children are expected to develop more general strategies which include the ability to assess and affirm the relative reality (as opposed to non-reality) of televised material. They will increasingly be able to recognize as unreal programs whose unreality depends on their staged nature or exaggerated qualities rather than on feats of physical impossibility.

The model distinguishes two basic types of criteria, each of which makes a necessary contribution to the assessment of the reality status of television. The first, entailing TV-Real Life Comparisons, is the ability to invoke criteria which compare television events to the real world. The second, citing TV-Specific Criteria, is the use of one's understanding of how and why television programs are put together. The use of one strategy without the other would result in a limited grasp of television. For example, if decisions were based exclusively on the manner in which television programs were made, one might dismiss all acted programs and assign the same degree of reality to a historical drama and a soap opera. Alternatively, decisions made only by comparing programming to the real world would provide no basis for judging topics foreign to one's experience; a documentary about South Africa and a science fiction adventure might be

perceived as equally fantastic. Within each of these broad categories, a number of age-specific expectations have been generated about the types of criteria accessible to children at different ages.

TV-Specific Criteria. The ability to use TV-Specific Criteria depends on children's knowledge of the television medium and their ability to use cues provided by the medium itself. Thus, the type of criteria applied depends on the level and scope of the child's understanding of the medium's creation and presentation. Given the principles of cognitive development, children are expected to focus on different aspects of the medium with age.

Younger children, while actively concerned with "figuring out" the dilemmas posed by television, are expected to attend to the most observable features of television, particularly those cues which pose violations of physical reality (e.g., stunts and camera tricks). With age, children are expected to develop a more general and conceptually-based understanding of the contrived nature of television. Recognizing its created and staged status, they will use a different set of cues, particularly those related to its performed status. In addition, older children, having mastered the distinction between performance and non-performance, are expected to move beyond discussion of these issues. They are expected to adopt a critical stance toward the quality of the representation, addressing such issues as the authenticity of the programming, the source of the information, its purpose, the author's intent, and the role of exaggeration and distortion in a dramatic presentation.

TV-Real Life Comparisons. The ability to compare television content to real life involves three basic decision rules: deciding whether it exists in the real world, whether it is possible in the real world, whether

it is plausible in the real world. When all three rules are available, multiple interpretations of the problem become possible. It is hypothesized that the abilities to apply these three types of criteria, and to use them in combination, will develop with age. Younger children will rely most heavily on the assessment of whether or not something actually occurs in the world and will assess the impossibility of specific actions and events. Children of middle age will continue to assess impossibility but will also increase in their ability to recognize possibility. The oldest children will develop the additional ability to evaluate the likelihood or plausibility of a character or a plotline.

The Study

Method

Subjects. Interviews were conducted with 18 children, half of them male and half female, in each of the second, fourth and sixth grades. Children were selected at random from their classrooms; those with known learning disabilities and those with English as their second were excluded.
language / All subjects attended the same school in Watertown, Massachusetts, a working class multi-ethnic suburb of Boston.

Interview. All children were seen individually by the same experimenter in a small room in the school, in a tape-recorded interview lasting approximately 30 minutes. In order to elicit the full range of criteria the child could use to justify judgments about the reality of television, the interview posed a series of forced-choice comparisons. For each of 12 pairs of programs, the child was asked to judge which was more real and to provide reasons accounting for this judgment.

Along a continuum from totally real to unreal, programs on television can be conceived of as falling into four general groups: at one end, realistic programs such as the news and sports; at the opposite end, blatantly unreal or impossible programs (e.g., Wizard of Oz, Superman). In between these two extremes like programs containing both real and unreal elements. Live but staged programs (e.g., talk shows, game shows) and fictional but possible programs (e.g., police dramas, situation comedies) exemplify the intermediate groups exhibiting more ambiguous reality status.

It was assumed that the easiest comparisons would involve those programs which had the most disparate reality status (e.g., the news versus the Wizard of Oz). More difficult are items which compared programs closer to one another in reality status (e.g., The Mike Douglas Show vs. Little House on the Prairie) since they require the child to make finer discriminations and to utilize more subtle criteria. By decreasing the distances between shows being compared, the items increased in difficulty. It was assumed that the more difficult items would be more likely to evoke the full repertoire of criteria available to the child, thus testing the limits of his problem solving ability.

Although the broader "types" of television programming (e.g., documentary, situation comedy) were of interest, pilot testing indicated that children could more readily address issues of reality with regard to specific programs rather than to these more abstract program categories. Therefore, the specific programs discussed in the interview (e.g., Kojak, Adam 12) served as exemplars of a class of programs (e.g., police shows). Black and white photographs of the television programs were provided as

representations of the program being discussed.

Prior to beginning the comparisons, children were asked to identify photographs of the 24 programs to assure familiarity. Children then were presented with the first pair of programs and asked "Which is more real?" Following their decision, children were asked to explain the reasons for their choice. The remaining eleven comparisons were similarly presented in a fixed order according to their increased difficulty.

Scoring System. A descriptive scoring system was developed to categorize the reasons given by children. The scoring categories represent the range of potential criteria which can be brought to bear in assessing a program's reality status.

In each case, the rationale given by a child was designated as scorable or unscorable. A response was considered unscorable if the child failed to supply a reason (e.g., "I don't know"), if the reason was a subjective judgment (e.g., "Because I like it better"), or if it was an idiosyncratic description of the program (e.g., "Because they live in a house and they live in an apartment building" or "Because it is on every Tuesday night"). All other responses were assigned to a scoring category. When more than one reason was provided for a given item, multiple scores were assigned.

In accordance with the model, the scoring system was divided into two basic types of reasons: TV-Real Life Comparisons and TV-Specific Responses. These two broad categories represent the two complementary capacities hypothesized as central to sophisticated reality assessment. A TV-Real Life Comparison score was given when the child was making a

comparison--either noting a similarity or pointing to a contrast--between the televised content and the real world. Reasons were assigned to one of the major sub-categories of Actual, Possible, and Plausible. Although there are important distinctions between these sub-categories, a child using any one of them is comparing the world portrayed on television with the world experienced in daily life.

In contrast, a TV-Specific Response was used for responses in which the child focused on some aspect of the program or invoked knowledge of the television medium itself without applying real world criteria. Live/Filmed, Aided, and Created are examples of TV-Specific categories. Table 1 explains the scoring system and provides responses exemplifying the various categories.

Two independent judges scored in common one third of the interviews. Inter-judge agreement was 83%. One judge then scored the remaining data.

Results

In order to assess the hypothesized developmental increase in the number of rules or strategies available to children for evaluating the reality status of programs, the number of different categories invoked at each age was examined. Analyses documented a statistically significant increase in the mean number of rules between each of the three grades ($F=16.70$, $df=2,51$ $p \leq .05$). Thus there is a significant increase with age in the overall number of criteria available to children.

Unscorable answers provide additional evidence about children's ability to address the reality status of television programs. Analysis showed a statistically significant decrease in the mean number of unscorable

answers for each age ($F=8.59$, $df=2, 51$ $p \leq .05$). Second graders proved unable to address the reality status of twice as many programs as fourth and sixth graders. The older children were more successful at providing appropriate reasons while younger children more frequently resorted to idiosyncratic or value-laden reasons.

Further examination of unscorable answers supports the second general hypothesis that young children can more easily recognize and address the reality status of programs which contain blatant violations of reality. Those programs with unreal and impossible elements (e.g., Wizard of Oz, Superman) produced few unscorable answers at any ages. Only for these shows were second graders as effective as their older counterparts. In contrast, the younger children had considerably more difficulty with the realistic programs (e.g., news, hockey), live programs (e.g., talk show, game show), and fictional but possible programs (e.g., comedies, dramas). These show types all produced similar patterns of unscorable responses, with second graders giving twice as many as older children. This discrepancy in children's ability to assess different types of television fare supports the hypothesis that younger children can most readily assess programs which are blatantly unreal but remain confused about the status of other programs.

To clarify further developmental changes in the nature of reality/fantasy evaluations, the judgments made and the reasons given by children of different ages were examined. In regard to the particular program chosen as more real, it is noteworthy that there were generally no age differences in which programs were chosen; only one of the twelve comparisons yielded an age difference.[1] However there were substantial differences in the

reasons with which children substantiated their choices.

Examining the frequency of usage of the two broad types of criteria (TV-Real Life and TV-Specific) shows no age differences in the tendency to favor one or the other of these types of reasoning processes. However, an examination within each category of the number of different rules available reveals a developmental increase. As for the mean number of strategies available to compare television to real life, there is significant increase with age ($F=12.27$, $df=2, 51$ $p \leq .05$). Similarly, the number of different TV-Specific criteria also increased with age; however only the difference between second and fourth grades proved significant ($F=6.04$, $df=2, 51$ $p \leq .05$). Fourth and sixth graders have approximately equal repertoires of criteria available.

Thus, with age, children develop more strategies, both to compare television to real life and to assess its medium-specific features. Developmental changes in the nature of reasons invoked within each of the two strategies will be considered separately.

TV-Specific Criteria. Developmental changes were apparent in the nature of the criteria utilized by children. Younger children focused on physical features of a program as cues to its non-reality, including the presence (or absence) of stunts, camera tricks, costumes, props and sets. Fifty-two percent of the TV-Specific responses given by second graders referred to these features in contrast to only 18% and 15% of the fourth and sixth graders respectively. This discrepancy supports the hypothesis that young children are more reliant upon the observable "deceptive" feature of television programs in evaluating their reality status.

Another group of TV-Specific Criteria were those which concerned the representational qualities of a program (e.g., whether it is a performance as opposed to real life). Such concerns include whether a presentation is acted, scripted, rehearsed, live, or filmed. Taken together, these issues all address the degree to which a show is a contrived performance. Summed together, these reasons accounted for only 25% of second grade answers, but for 59% of fourth grade answers and 54% of sixth grade answers. Thus, in contrast to the young subjects, the older children become increasingly aware of the ways in which television is a representation of life.

Few children, even sixth graders, went beyond discussing the performance features of television. For example, although sixth graders more frequently cited the authored or created aspect of television programming than the younger grades, the incidence was still quite low (accounting for only 10% of sixth grade reasons and 5% of fourth and second grade reasons). Similarly, 10% of the sixth grade answers invoked the purpose or intention of the programming (i.e., whether it was produced to inform or entertain) while only 4% of fourth and 1% of second grade answers discussed this. In addition, few children ever discussed the exaggerated or distorted qualities of a dramatic presentation (4% of sixth graders; 2% of fourth graders; and no second graders).

TV-Real Life Comparisons. Of the three general strategies for comparing television to real life, the category of "actual," referring to whether or not the television content exists in the real world, was used uniformly and almost universally. It was the most frequently cited

response category at all ages and was used by all but two children. Actuality seems to be the most basic dimension of comparison, already well within the repertoire of second graders.

Similarly, the category of "possible," referring to whether or not the television content could happen in the real world, was almost universal, with all but six children utilizing it at some point. However, it is used more frequently by second and fourth graders (32% and 33%) than by sixth graders (13%) who have developed additional strategies to assess television's reality status.

An interesting contrast emerged between second and fourth graders in their strategies of assessing possibility. As with most of the categories, this strategy can be used in two ways: to declare a program fantastic because it is impossible or, alternatively, to designate it as real because it is possible. While "impossibility" was used by equal numbers of children at all ages to explain why programs are not real, twice as many fourth graders as second graders used "possibility" to confirm that programs are real. This age-related increase in the tendency to cite realistic elements affirms a general trend: while younger children are often attending to blatantly unreal events, older children are expanding in their abilities to assess relative reality. Thus, while second graders tend to use "possibility" to disconfirm fantasy, older children have become more flexible and can use the strategy to confirm reality as well. A younger child, for example, disproves reality, as in "Superman isn't real because people can't really fly," while an older child will more frequently give an explanation

which proves reality such as "Kojak is real because it could happen. The FBI could catch some guys like he does."

By using the strategy of "plausibility," the child indicates whether or not the television content is likely to happen in the real world in a manner similar to its television portrayal. Unlike the categories of "actual" and "possible," the use of "plausible" is not universal. Rather, it is a strategy whose use is restricted to older children and most often cited by sixth graders.

There is a significant increase with age in the number of children who are able to employ plausibility ($X^2=11.4$, 2df, $p \leq .01$). While second and fourth graders use this strategy in only 2% and 9% of their TV-Real Life comparisons, sixth graders cite plausibility 23% of the time. Together with the decrease in their use of "possibility," this finding supports the hypothesis that older children are moving from the determination of possibility to the assessment of probability. Thus, by sixth grade, violations of social and psychological reality (implausible phenomena) are replacing violations of physical reality (impossible phenomena) as the means by which children can prove or disprove the reality of television content.

Discussion

This study reveals that, when asked to evaluate the reality and fantasy or programs, children make complementary use of TV-Real Life Comparisons and TV-Specific Knowledge. Within each domain, the number of strategies available to the child both increase and change with age. In possession of fewer rules, younger children repeatedly invoke the same strategies in their restricted set. As the repertoire of criteria expands developmentally,

reality/fantasy assessment becomes more comprehensive and a wider diversity of program types can be appropriately addressed. Moreover, the nature of the reasons which children offer in support of their judgments changes with age. A shifting set of general cognitive strategies and specific medium concerns results in qualitatively distinct approaches to the problem at different ages.

While younger children make use both of TV-Real Life Comparisons and TV-Specific Criteria, their interpretations of the problem are literal and their judgments are quite dichotomous. Shows simply are real or "fake," and the children's supporting explanations reveal little appreciation for the subtlety of the question or the complexity of issues involved. Reality/fantasy determinations are made frequently by reference to whether or not the televised content exists in the real world, with little apparent regard for its fictionalized status. Indeed, the mere co-occurrence of a given element on television and in the world is often sufficient to confirm a show's reality status. Only gross violations of physical reality, such as impossible feats, are apt to disconfirm a show's presumed reality.

In the application of TV-Specific Criteria, the child's attention centers repeatedly on the specific deceptive features of programming, the means by which the medium violates physical reality. In the absence of such blatant violations and observable features, and lacking access to additional criteria, reality is often assumed rather than proven. The result of the young child's approach is an over-estimation of the reality of much television fare.

The recognition and elaboration of these specific concerns with trickery culminates in the more general realization that television is a fabrication, i.e., that much of its content is meant to be an imitation or representation

of life. This conceptual knowledge is a critical achievement in the development of reality/fantasy reasoning, one which dramatically alters the child's interpretation of, and approach to, the question "Is it real?" Having internalized an understanding of television's representational status, the child can make use of this new concept and no longer is bound to the perceptual cues which form the bases of prior reality/fantasy judgments. The child using TV-Criteria begins to refer to the medium features which serve as indications of the performed or contrived status of a program, a set of concerns replacing the previous focus on the physical features of programs. Given the child's new-found realization that television is not real life but rather a representation of it, the nature of his Television-Real Life Comparisons changes as well. The question for the child becomes, "As a representation, how real is it? To what extent does the televised content correspond to real life?" With the question re-worked in this way, violations of social and psychological reality become meaningful indices of a show's reality status. Violations of physical reality are no longer an appropriate nor a favored means of assessment. Rather, evaluations of implausibility and plausibility develop. Use of this strategy increases with age and its frequent use by sixth grade is what most differentiates the approach of the older children from their younger and/or less sophisticated counterparts.

Contrary to expectation, critical consideration of the quality, authenticity, and veracity of television representations was rarely expressed, even among the oldest subjects. Apparently, mastery of these "meta-medium" concerns has not been accomplished by the majority of sixth graders.

The degree to which children utilized their full repertoire of reality/fantasy criteria depended to a large extent on the particular items being compared. None of the children at any age had trouble determining the

reality status of programs which fall at either end of the reality/fantasy continuum as evidenced by the absence of age differences when addressing pairs of shows containing items either very real (like the news) or very fantastic (like Wonder Woman). Rather, it is the shows which occupy the continuum's middle range--ambiguous in status, being real in some respects and unreal in others--which challenge the child's evaluative powers and reveal significant developmental differences. This finding demonstrates the necessity of considering the specific program type to be an influential variable upon reality/fantasy determinations and suggests the inadequacy of findings which are based on discussion of "television" as a global unit.

Among strategies which have the means to confirm reality as well as to disconfirm fantasy (e.g., possible/impossible or acted/not acted), the general finding that children first are able to employ them in their negative form (not real because impossible) and only later can use them in their positive form (real because possible) is of theoretical interest. The trend suggests that fantasy is the "marked" category, the one which is recognized first by virtue of the discrepancies which set it apart from the basic "unmarked" category of reality. While even very young children recognize certain elements as unambiguously fantastic (e.g., talking animals or flying persons), no such set of defining or criterial attributes exists with which to characterize reality. Accordingly, reality lags behind fantasy in attaining categorical status. With age, children develop the corollary ability to affirm reality, and begin to employ strategies bi-directionally. This flexible capacity depends primarily upon attending to the degree of conformity between the world as it is portrayed on television and the world

which is known from daily experience.

While general cognitive gains certainly underlie progress in each of the two domains (TV-Real Life Comparisons and TV-Specific Criteria), it seems that changes in the former more directly reflect basic cognitive changes, whereas proficiency in the latter depends more specifically upon exposure and understanding of the medium itself. For example, the crucial conceptualization of television's representational nature depends on comprehending a number of discrete features provided by the medium itself (e.g., credits, acting). In contrast, the sixth grader's acquisition of "plausibility" as a strategy--an equally important achievement for reality/fantasty reasoning--is facilitated in large part by the generally increased capacity for hypothetical thought evident among this age group. Additionally, since comparing television to real life is a major component of reality/fantasy evaluation, real world exposure and experience must make necessary contributions by providing the backdrop against which the television world is compared. Future research should clarify the relative contribution made by the three factors: television experience, real world experience, and growth of logical thought in general.

The related question concerning the extent to which the findings are specific to television or are generalizable to other media is answered, at least in part, by recent research (6) examining the development of reality/fantasy evaluations with respect to books. Modelled along the lines of the present investigation, this study confirmed the developmental trends in reality/fantasy reasoning which characterize television. At the same time, the cross-media approach demonstrates that the trajectory can be influenced by the characteristics of the medium under discussion. For example, awareness of the created status of media presentations is cited more frequently and understood earlier in

books as opposed to television. Children seem to recognize more readily the fictionalized nature of print materials. Another difference between reality/fantasy evaluations of the two media concerned the use of plausibility: when assessing books, children less frequently referred to plausibility or implausibility than did those assessing television shows.

Finally, the surprising lack of developmental differences with regard to the shows chosen as more real merits comment. At all ages, children reached similar judgments about which of the presented items were more real; it was the means by which their judgments were made, and the criteria upon which they were based, which proved dependent on age. That the observed similarity of choices could obscure the radical dissimilarity in the reasoning behind them underscores the importance of examining children's reasoning procedures. Knowledge of the bases upon which reality/fantasy discriminations are made helps to clarify how those judgments may affect children's experience of television.

Footnote

[1]This item posed the comparison, "Which is more real, Charlie Brown or Superman?" Second graders favored Superman while sixth graders overwhelming chose Charlie Brown. Fourth graders were split equally between the two shows.

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Table 1

TV-REAL LIFE COMPARISONS[1]

Category	Criterion	Example
Actual	TV content does or does not exist or happen in the real world	"Because the news tells about fires that really happened in real life."
Possibility	TV content could (or could not) happen in the real world; the events are judged to be possible or impossible.	"Star Trek is not real because nobody can stay up that long in space, not the Russians or anybody so it's not real."
Plausibility	TV content is (or is not) likely to happen in the real world in the manner portrayed by TV.	"Cause it's just like a real family. It reminds me of real families. Stuff like that always happens to someone."
		"Little House on the Prairie isn't real because each week they have a new problem and then all of a sudden it turns out all perfect and fine. But in true life, you really don't have as many problems as they have on the show."
TV-SPECIFIC CATEGORIES		
Camera Tricks	Child refers to visual illusions created by camera tricks.	"Star Trek isn't real because it's only a trick camera. When he crashes rocks with his hands and flies that's all in the studio and he just goes across the room. It's all trick camera."

[1]Several other categories were included in the original system but were used infrequently by children of all ages.

Costumed	Child refers to costumes worn.	"Wizard of Oz isn't real. They're just dressed up as lions and witches and wearing tin man suits."
Sets & Props	Child considers the authenticity of a program's locations and/or props.	"Brady Bunch isn't real because it's not a real house in a regular neighborhood. It's just at the television place and they give them a fake refrigerator."
		"Kojak is real because it is filmed in the streets."
Stunts	Child refers to illusions created by physical tricks or gimmicks.	"Wonder Woman is supposed to have super powers but she doesn't. She's just holded up with giant ropes and they haul her up higher and higher every time."
		"Kojak's not real because they don't really kill people. They just use wax bullets and make pretend that the people get hurt by putting some ketchup for blood."
Acted	Child discusses the presence (or absence) of actors playing roles.	"Adam-12 isn't real because they're not real policemen—they are just some guys that dress up like policement and act real good and get to be on Adam-12."
		"Mike Douglas is real because the people are not acting, they're just being their real selves."
Lines/Script	Child discusses whether or not lines or a script are used.	"Little House isn't real because...they're not making it up--they just sit down and practice their lines and then they say it..."
		"Mike Douglas is real because on the show, the people just say what they think and tell what they feel."

Rehearsed	Child discusses whether the program is rehearsed or spontaneous.	"Wizard of Oz isn't real because the people have been practicing and practicing for the exact thing that's going to happen." "Baseball is real because nobody knows what's going to happen and that's Nobody--not the baseball players or anyone."
Audience Presence	Child refers to the presence or absence of an audience.	"The baseball game is real because you can see the people in the stands while it is happening."
Live/Filmed	Child discusses whether the show is live, happening as it is being broadcast or filmed in advance.	"Mike Douglas show already happened, but they put it on film and they show it again so it's not as real as baseball."
Created/Authored	Child recognized that the program is made up, and created by people.	"Star Trek is not real because it's what someone thought up in their mind. The monsters and...the creatures in there were made up in an artist's head."
Distorted	Child recognizes that the TV content has been altered from its original source and/or child refers to the sensationalism of the TV presentation.	"Because on Kojak they have taken a real thing but then they add things to it. They put in different things like special happenings to make the story more interesting, to make it more exciting and to make people want to watch it."
Edited	Child refers to incompleteness of the TV presentation.	"Little House isn't real because they took out things that happen in the book and make it quicker so you don't know everything."

Purpose of Programming	Child discusses the informational or entertainment purpose of the program.	"The news is real because it's for our benefit, to teach us what's happening around the world." "Kojak's not real. I think it's just a show for pure pleasure, for people to watch and get all excited about."
Staged/ Independent Event	Child makes a distinction between programs specifically created for TV and TV content which is autonomous and occurring independently in the world.	"The baseball game is real because people can go and see it in real life. It's just happening right there... Nothing is done for TV."

Harvard Project Zero is a basic research program at the Harvard Graduate School of Education. Its original charge was to study creation and comprehension in the arts and means toward better art education. A prime objective throughout the Project's history has been to provide a sound theoretical and experimental base for effective education of artists and audiences. The Project began in the fall of 1967 in response to the frank admission that, however much is known about how to educate in science and how to evaluate scientific work, practically nothing is known about the underlying principles of how to teach and evaluate in art. From that challenging "zero" the Project took its name and tasks. Our research methods include rigorous conceptual analysis, investigation of relevant literature, design and execution of key experiments in psychology and other fields, visits to arts education institutions, and application of results to proposing and assessing programs in art education.

Project founder and former director Nelson Goodman's book Languages of Art (Bobbs-Merrill, 1968) has provided important direction in our effort to isolate and investigate basic skills. This work sets forth a "theory of symbols," a broad treatment of elements of communication, embracing words, gestures, diagrams, paintings, poems, musical scores, and so on. Almost all the psychological processes under consideration in our studies of the arts involve extensive operation with and upon symbols of various kinds. These symbols are not merely instruments of communication, but also instruments of cognition, tools in terms of which the mind deals with the perceptual world.

Some of our research has examined the psychological implications of the theoretical models of symbol systems introduced in Languages of Art. For instance, one question is whether different information processing skills are necessary to produce effective art within linguistic, versus nonlinguistic, symbol systems. Another, complementary approach emphasizes problem solving and search strategies in the moment-to-moment perception and production of a work of art. How do subjects search for rhyme words in poetry or explore alternative placements of pieces in collage? A favorite means of developing and testing new models is through the study of errors. By using impoverished or ambiguous stimuli, assigning tasks somewhat too difficult for a subject, or working with brain-damaged subjects, one can elicit patterns of error-making which suggest hypotheses and select between alternative models of a process. These approaches characterize many of the Project's investigations mentioned below in a list of Project members and their particular interests.

Though the development of actual curricula in arts education is not a primary concern, the Project does contribute to the field of practical education. Project members have responded to inquiries and requests to comment on curricula from teachers in the field. Establishment of Harvard Summer School's Institute in Arts Administration resulted from the Project's reply to an inquiry from the director of the Harvard Summer School, and members of the Project staff cooperated in planning the Institute, in preparing material, and in the actual teaching. Consideration consultation has been provided to schools, museums, television, and a variety of arts institutions by members of the Project.

The Project has also sponsored a series of lecture-performances in various media, designed to give the general public and prospective public school teachers and administrators better insight into and attitudes towards artists and the arts. As the series title "Art in the Making" suggests, the purpose of the lecture-demonstrations was to reveal something of the artist's way of working, rather than to display his products. In the presence of an audience free to ask questions, each artist explored alternatives, exposed some constraints of his medium, compared his various efforts, and searched for the right effect, choice by choice.

While maintaining a major concern with the arts and art education, the Project, under its current co-directors, has considerably broadened its field of inquiry and now investigates a whole range of topics in the area of cognitive psychology. One part of the Project has focussed particularly on developmental studies. Among the topics currently being investigated are the emergence of symbolic capacities during the first years of life; the development of literary abilities, specifically the capacity to produce and appreciate metaphors and stories; children's understandings of the various worlds presented on television; the emergence of drawing skills; and the breakdown of various symbol using capacities under various forms of brain damage. The other part of the Project has concentrated on studies in the areas of cognitive and perceptual psychology, ones which utilize both normal adult subjects and gifted artists. Among the topics investigated recently have been critical judgment and the sources of critical disagreement in adults; the thought processes of professional and amateur poets and painters in developing works; the role of geometric principles in visual perception and picture perception particularly; reasoning about everyday matters and the logical difficulties people encounter.

A list of recent papers which can be purchased from the Project is available upon request.